

**ELECTRON BEAM EXPOSURE APPARATUS,
ELECTRON BEAM EXPOSING METHOD,
SEMICONDUCTOR ELEMENT MANUFACTURING METHOD,
AND PATTERN ERROR DETECTION METHOD**

Abstract

An electron beam exposure apparatus for exposing a wafer with an electron beam includes a section for generally controlling a wafer exposing system, a first buffer memory for temporarily storing exposure data, a second buffer memory for temporarily storing the exposure data, a first exposing section for irradiating the wafer with an electron beam based on exposure data output from the first buffer memory, and a first comparing section for comparing exposure data output from the first buffer memory with exposure data output from the second buffer memory and notifying the comparison results to the general control section. Further, an exposure apparatus and a pattern error detection method for accurately detecting an error of an exposure pattern formed to a wafer is disclosed.